National Institute of Environmental Health Sciences

The view from the front line: Adapting Australia to climate change

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Abstract:

If we are looking for examples of adaptation, and maladaptation, to extreme climate variability, and for a country which sits closer to the edge of climate change than most, Australia offers some useful lessons. These lessons address three key areas: adapting to a reduced water supply, managing extremes, and understanding the limits of adaptation. Some of the characteristics that place Australia on the climate change front line stem from its environmental vulnerability—its geography and, especially, its demography. The current population of Australia is 22 million, scattered over a country the size of Western Europe. Many are relatively new arrivals, depending on your timescales: the First Fleet reached Australia in 1788, and in 2006 it was still the case that nearly one in four (24%) Australian residents were born overseas. This population is highly urbanised – 89% live in urban areas, two-thirds alone in the eight capital cities – and coastal – something like 85% live within 50 km of the coast. So, this immigrant population is not one which over millennia has attuned itself to its environment. Rather, it has bought into the Sea, Sun and Surf lifestyle of the urbanised coast, living around the rim and turning its back on the interior. The Indigenous population is another matter: the oldest human remains discovered in Australia have been dated to 40,000 years ago. But, comprising only 500,000 people, their capacity to contribute to the national adaptation response is limited. To sustain this urban coastal lifestyle, Australia is one of the highest per capita consumers of electricity and water in the world. The biggest users of electricity are the metal and mining companies, taking close to 40% of the national supply. Their importance to the national economy cannot be underestimated—something like 60% of the country's export earnings are from metals and fossil fuels. The biggest user of water is agriculture, taking some 23% of the total consumption. and that brings us to the Murray-Darling Basin.

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Resource Description

Early Warning System: ☑

resource focus on systems used to warn populations of high temperatures, extreme weather, or other elements of climate change to prevent harm to health

A focus of content

Exposure : ☑

weather or climate related pathway by which climate change affects health

Food/Water Security

Geographic Feature: ☑

resource focuses on specific type of geography

Ocean/Coastal, Urban

Geographic Location: ☑

resource focuses on specific location

Non-United States

Non-United States: Australasia

Health Impact: ☑

specification of health effect or disease related to climate change exposure

General Health Impact

Intervention: ☑

strategy to prepare for or reduce the impact of climate change on health

A focus of content

Mitigation/Adaptation: ☑

mitigation or adaptation strategy is a focus of resource

Adaptation

Resource Type: ☑

format or standard characteristic of resource

Policy/Opinion

Resilience: ☑

capacity of an individual, community, or institution to dynamically and effectively respond or adapt to shifting climate impact circumstances while continuing to function

A focus of content

Timescale: ☑

time period studied

Time Scale Unspecified

Vulnerability/Impact Assessment: ☑

resource focus on process of identifying, quantifying, and prioritizing vulnerabilities in a system

A focus of content